

SERVICE BULLETIN

NUMBER: SB 500-32-006, REV B
MODEL: ECLIPSE EA500
SUBJECT: LANDING GEAR EMERGENCY EXTENSION INSPECTION AND RIGGING

1. PLANNING INFORMATION

A. Effectivity

Aircraft Serial Numbers 000001 to 000062.

B. Reason

Landing gear may not extend properly when emergency release handle is pulled.

C. Description

This Service Bulletin (SB) ensures that the landing gear extends properly when the emergency gear release handle is pulled.

D. Relevant Publications

Aircraft Maintenance Manual (AMM), P/N 06-117751, latest Rev.

E. Compliance

Eclipse Aviation Corporation considers this to be a mandatory inspection that **must** be accomplished within 30 days or 50 hours, whichever occurs first, from the issue date of this SB.

Rev B of this Service Bulletin is a clarification of some items in Rev A. If Rev A has been complied with, Rev B is also automatically complied with.

F. Approval

This Service Bulletin is based on engineering data that is FAA-approved, and the modification herein complies with the applicable regulations.

G. Labor Requirements

The following information is for planning purposes only.

(1) Suggested number of personnel: 3

Estimated labor hours to perform:

- Jack Airplane: 0.2 Hours each person
- Landing Gear Emergency Extensions/Adjustments: 1.2 Hours each person
- Lower Airplane: 0.2 Hours each person

Total labor hours: 4.8 Hours

The above is an estimate based on properly equipped and experienced personnel complying with this Service Bulletin. Actual labor hours may vary depending on workforce experience, concurrent maintenance, discovery of other discrepancies, etc.

(2) Qualification of personnel:

- Airframe & Powerplant (A&P) License

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H. References

Aircraft Maintenance Manual (AMM), P/N 06-117751, latest Rev.

2. MATERIAL INFORMATION

A. Consumables

The following consumables are required for this Service Bulletin.

Material	Specification	Use
Safety Wire	MS20995C32, 0.32 diameter	Secure landing gear emergency extension handle cable adjusting nuts.
Lubricant	MIL-C-81309D, Type III, MIL-PRF-81309F, Type III, MIL-23411A, or MIL-C-16173, Grade 3, 4, or 5	Lubricate landing gear emergency extension cable.

B. Tooling

The following special tooling/support equipment is required to accomplish this Service Bulletin.

Nomenclature	Specification	Use
Jack, Tail	Tronair, 02-0522-0140 or equivalent (capacity 5 tons)	Lifting aircraft for maintenance.
Jack, Main (X2)	Tronair, 02-0517-0140 or equivalent (capacity 5 tons)	Lifting aircraft for maintenance.
Push-Pull Force Gauge (X2)	Chatillion DG-400 or equivalent	Measure force required to lift landing gear emergency extension handle and measure force required to extend nose landing gear to down and locked position.

3. ACCOMPLISHMENT INSTRUCTIONS

A. Procedure

- (1) Make aircraft safe for maintenance. Refer to AMM 20-00-01.
- (2) Make the anti-ice systems safe for weight off wheels maintenance. Refer to AMM 20-00-03.
- (3) Make sure the following are collared:
 - ECB – WEATHER RADAR (L FWD Bus)
- (4) Make sure the following are set to AUTO-ON:
 - ECB - L MAIN LDG GEAR (L AFT Bus)
 - ECB - R MAIN LDG GEAR (L AFT Bus)
 - ECB - NOSE LDG GEAR (L AFT Bus)
- (5) Remove external electrical power. Refer to AMM 24-40-00.

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- (6) Put aircraft on jacks. Refer to AMM 07-10-00.
- (7) Apply external electrical power. Refer to AMM 24-40-00.
- (8) During emergency extension test, monitor the MFD for correct gear indication as follows:
 - BLACK indicates up and locked.
 - YELLOW indicates in-transit.
 - GREEN indicates down and locked.
 - RED HASHED LINES indicates gear unsafe.
- (9) Retract landing gear.

WARNING: FOLLOWING EMERGENCY GEAR EXTENSION, THE GEAR COULD RETRACT AUTOMATICALLY IF THE ELECTRONIC CIRCUIT BREAKERS (ECB) ARE RESET WITHIN 30 SECONDS OF EMERGENCY EXTENSION WITH THE LANDING GEAR HANDLE IN THE UP POSITION. KEEP AREA CLEAR UNTIL CERTAIN THE TIME HAS ELAPSED.

NOTE: Before performing the next step, make sure personnel are positioned at the locations specified and are ready to simultaneously perform the following tasks:

Location	Task/Responsibility
Cockpit	<ul style="list-style-type: none"> • Pull up emergency extension release handle. • Measure and record force required to bring emergency extension handle with push-pull force gauge to the UP position. Make sure force does not exceed 18 lbs (8.1 kg).
Nose Landing Gear (NLG)	<ul style="list-style-type: none"> • Push NLG to the down and locked position with push-pull force gauge (refer to Figure 1). Be sure to push NLG while gear is in transit. • Measure and record force required to extend NLG to down and locked position. Make sure force does not exceed 25 lbs (11.3 kg).
Main Landing Gear (MLG)	<ul style="list-style-type: none"> • Make sure both MLG extend to the down and locked position. Make sure transit time does not exceed 2.5 seconds. • Make sure MLG extension is smooth.

- (10) Pull the emergency gear extension release handle in one continuous movement until latch engages locking handle in the UP position. Be sure to measure and record observations as applicable.

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**Push-Pull Gauge Application to NLG
Figure 1 (Sheet 1 of 1)**

NOTE: If any portion of test failed to produce desired results, go to step 11. Otherwise, go to step 12.

- (11) If any portion of test failed to produce desired results, repair in accordance with the following table. After all discrepancies have been corrected, go to step 12.

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Observed Results	Repair Action
Force required to pull up emergency release handle exceeds 18 lbs (8.1 kg)	Make sure there are no bends, kinks, or interference in emergency gear release cable. Apply a small amount of MIL-C-81309D, Type III, MIL-PRF-81309F, Type III, MIL-23411A, or MIL-C-16173, Grade 3, 4, or 5 lubricant in the bore of the bushing around the actuator plunger. If necessary, do an emergency gear release cable adjustment. Refer to SUBTASK AMM 32-30-00-071-701-001. If gear still does not extend after cable lubrication and adjustments, replace emergency gear release cable assembly. Refer to AMM 32-30-10.
One or more landing gear do not extend	Make sure there are no bends, kinks, or interference in emergency gear release cable. Apply a small amount of MIL-C-81309D, Type III, MIL-PRF-81309F, Type III, MIL-23411A, or MIL-C-16173, Grade 3, 4, or 5 lubricant in the bore of the bushing around the actuator plunger. If necessary, do an emergency gear release cable adjustment. Refer to SUBTASK AMM 32-30-00-071-701-001. If gear still does not extend after cable lubrication and adjustments, replace emergency gear release cable assembly. Refer to AMM 32-30-10.
MLG does not extend and lock in 2.5 seconds or less	Do an adjustment/test of main landing gear and doors. Refer to AMM 32-10-00.
Force required to pull NLG to the down and locked position 25 lbs (11.3 kg)	Do an adjustment/test of the NLG and doors. Refer to AMM 32-20-00.

- (12) Measure the clearance between the actuator body and the actuator release lever. Refer to SUBTASK AMM 32-30-00-071-701-001. If measured dimensions are not within tolerance (0.005 to 0.010 inch), adjust cable. Refer to SUBTASK AMM 32-30-00-071-701-001.
- (13) With gear down and locked, return emergency release handle to the stowed position. If landing gear moves as handle is stowed, adjust emergency release handle proximity switch. Make sure proximity switch is 0.06 +/- 0.03 inch from target. If gear still moves after proximity switch adjustment, replace emergency gear extension release handle proximity switch. Refer to AMM 32-60-10.
- (14) Reset the system after each successful emergency extension test as follows:
- (a) Make sure that emergency release handle is stowed.
 - (b) Place landing gear handle to the DOWN position.
 - (c) Set the following to AUTO-OFF:
 - ECB - L MAIN LDG GEAR (L AFT Bus)
 - ECB - R MAIN LDG GEAR (L AFT Bus)
 - ECB - NOSE LDG GEAR (L AFT Bus)

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- (d) Place gear handle to the UP position.
 - (e) Wait for 30 seconds.
 - (f) Set the following to AUTO-ON:
 - ECB - L MAIN LDG GEAR (L AFT Bus)
 - ECB - R MAIN LDG GEAR (L AFT Bus)
 - ECB - NOSE LDG GEAR (L AFT Bus)
 - (g) Place gear handle in the DOWN position. Make sure that the gear position is indicated by three GREEN (down and locked) on the MFD.
 - (h) Retract landing gear by placing gear handle UP. Make sure that the gear position is indicated by three BLACK (up and locked) on MFD.
 - (i) Extend Gear by placing gear handle DOWN. Make sure that the gear position is indicated by three GREEN (down and locked) on MFD.
- (15) Repeat the emergency gear extension test a total of five times. Gear must free fall successfully, and the clearance between the actuator body and the actuator release lever must remain within tolerance (0.005 to 0.010 inch) following each test.
- (16) If all other maintenance is complete, return aircraft to service. Refer to AMM 20-00-02-051-921-001.

B. Cost

Eclipse Aviation Corporation (EAC) will assume the cost (Parts, if required, and Labor) of this SB.

4. RECORD OF COMPLIANCE

Upon completion of this Service Bulletin, make an appropriate maintenance-record entry specifying the Service Bulletin number.

5. NOTIFYING ECLIPSE AVIATION

On completing this service bulletin, the operator/maintainer shall complete the attached Compliance Record and send it to Eclipse Aviation via regular mail, fax, or e-mail.

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